

**DII Response to Comments by EPA to
“Description of Off-Site Groundwater Sampling Activities”**

20 October 2016

The purpose of this submission is to respond on behalf of DII Industries, LLC (“DII”) to comments prepared by the U.S. Environmental Protection Agency (“EPA”) regarding a document entitled “Description of Off-Site Groundwater Sampling Activities” (“Off-Site Sampling Plan”) that Applied Environmental Management, Inc. (“AEM”) submitted to EPA on behalf of DII on 4 October 2016. The Off-Site Sampling Plan describes off-site groundwater sampling activities DII plans to perform to support the environmental activities it is conducting at a former manufacturing facility located at 124 West College Avenue in Salisbury, Maryland (the “Salisbury facility”). EPA provided its comments regarding the Off-Site Sampling Plan to AEM attached to an e-mail dated 7 October 2016.

As EPA is aware, DII has completed extensive groundwater assessment activities at the Salisbury facility in connection with the corrective action process pursuant to the Resource Conservation and Recovery Act (“RCRA”). Based on the information and sampling results that have been obtained through the groundwater assessment activities, EPA has indicated that it plans to update a document entitled *Resource Conservation and Recovery Information System Environmental Indicator – Migration of Contaminated Groundwater under Control, RCRIS Code (“CA 750”)* (the “GWEI”), which was previously issued by EPA in 2004 for the Salisbury facility. DII and EPA discussed in detail the information necessary to support an updated version of the GWEI at a meeting on the 29 June 2016, taking into account (1) the objectives of the GWEI process, (2) the groundwater sampling results that have been obtained at the Salisbury facility over more than a decade, and (3) the results of sophisticated groundwater modeling that has been performed to evaluate groundwater quality at locations downgradient of the Salisbury facility. DII believes that the groundwater sampling activities described in the Off-Site Sampling Plan will provide the necessary information to demonstrate that groundwater impacts originating at the Salisbury facility are sufficiently delineated and are not continuing to expand, and, as such, are under control for the purpose of updating the GWEI.

The groundwater sampling activities described in the Off-Site Sampling Plan are slated to take place on two distinct parcels of property to the north of the Salisbury facility – one located at 1044 South Tower Drive and owned by Hanna Family Investments, LP and the other located at 119-125 West College Avenue and owned by Rockford Salisbury, LCC. The latter parcel is referred to as the College Square Shopping Center. Because these two parcels are owned by third parties with their own needs and interests, the process of obtaining access to the parcels to conduct the groundwater sampling activities described in the Off-Site Sampling Plan has been long and challenging but has been successfully completed. As previously described to EPA, the field work to implement the Off-Site Sampling Plan is scheduled to begin on 24 October 2016. Preparatory activities (e.g., utility clearances and surveying) were completed last week as described below.

Prior to addressing each of EPA’s specific comments regarding the Off-Site Sampling Plan, DII would like to address certain statements in the opening paragraphs of EPA’s comment document that imply that a plume of light non-aqueous phase liquid (“LNAPL”) extends from the northeast

portion of the Salisbury facility under College Avenue and beneath the College Square Shopping Center property to the location of the irrigation well where DII intends to collect a groundwater sample. For example, the last paragraph on Page 1 of EPA's comments states in part: "An LNAPL plume which EPA was not aware of in 2004 actually may pass through the irrigation well."

Contrary to EPA's statement, DII has documented in numerous project status update reports and other project-related documents, as well as during presentations to EPA, that there is no evidence of a plume of LNAPL that extends off-site from the northeast portion of the Salisbury facility. Rather, only a certain subset of dissolved-phase petroleum hydrocarbons that originate from the LNAPL area located in the northeast portion of the Salisbury facility may extend off-site. This conclusion is based on the results of DII's extensive investigation and delineation activities which have found no evidence that LNAPL is migrating or has migrated from the Salisbury facility. The potential for migration of LNAPL in this portion of the Salisbury facility was also specifically addressed on page 11 of the LNAPL Source Summary Report, provided to EPA on behalf of DII on 5 February 2013, which states in part:

The lateral migration of LNAPL observed in the northeast portion of the Site has likely reached, or has nearly reached, its maximum extent. The primary considerations supporting this conclusion are (1) active operations at the Site ceased more than a decade ago and the use of the former East Side USTs [underground storage tanks] ceased more than 25 years ago, and (2) there are no known ongoing releases of LNAPL in this area of the Site nor any equipment or features that could cause ongoing releases of LNAPL. LNAPL migration rates decrease over time after a release stops because the LNAPL gradients that drive migration gradually decrease following the cessation of the release. After a period of time, the spread of LNAPL also ceases. Without a continuing release, the migration of LNAPL dissipates until the forces driving migration are insufficient to overcome the forces retarding migration. Because of the time that has elapsed since there were any significant sources of LNAPL in the northeast portion of the Site, the gradual decline in LNAPL gradients is believed to have substantially reduced the rate of LNAPL migration. While hydraulic gradients can also influence the rate of LNAPL migration, the hydraulic gradient across the Site is quite flat and its influence on the lateral movement of LNAPL at the Site is expected to be quite small. Thus, ERM believes that the current distribution of LNAPL in the subsurface is at or approaching a functionally stable stage where limited vertical redistribution of free product may occur as a result of fluctuations in water table elevations, but where further overall lateral migration of LNAPL is negligible.

Data collected on behalf of DII during implementation of an extensive LNAPL gauging program – implemented from 2012 to 2016 – confirm that LNAPL is not migrating beyond the boundary of the Salisbury facility. The LNAPL gauging program included conducting 119 separate gauging events at monitoring wells located in the northeast portion of the Salisbury facility, including two monitoring wells (well L38 and well L39) which are both located along the northern (downgradient) boundary of the Salisbury facility. Of the total 238 gauging events conducted within monitoring well L38 and monitoring well L39, LNAPL was detected only once in well L38 in July 2013 at a thickness of less than 0.01 feet.

Given the foregoing, there is no basis to assert or imply that an “LNAPL plume” as described in the EPA’s recent comment document extends from the northeastern portion of the Salisbury facility to off-site locations beneath the College Square Shopping Center.

With respect to EPA’s specific comments regarding the Off-Site Sampling Plan, DII has prepared the following responses to address those comments. For ease of review, each of EPA’s comments are set forth verbatim in normal type-face followed by DII’s responses in italics.

EPA Comment 1: To the extent available and practical, prior to collecting a sample from the irrigation well, per EPA Geologist request, provide to the EPA RPM and Geologist (Mike Cramer), for a quick turnaround review, a description of the geology associated with the irrigation well. Additionally provide a description of the construction, diameter, and depth of the irrigation well, and any associated geology and/or well construction logs. (As EPA RPM will not be available through much of the week of October 10, 2016, please request quick review of the geology directly from EPA Geologist, Mike Cramer (e-mail Cramer.mike@Epa.gov and confirm receipt of e-mail via phone 215-814-3446) and cc EPA RPM- where a quick review is within at least 8 in-the-office hours that Mike has available following verbal or electronic confirmation of contact with Mike. Mike is not in the office every other Friday- including 10/7/2016.)

***DII Response:** DII is providing below the information that it has in its possession regarding the irrigation well that is located on the College Square Shopping Center property. Information obtained from third party sources as part of a well search performed by ERM in 2009 indicates that the irrigation well (i) was completed on 23 July 1998; (ii) has a well permit number of WI-94-1991; (iii) is four inches in diameter; (iv) was completed using a stick-up polyvinyl chloride (“PVC”) casing; (v) is 70 feet deep with casing extending to a depth of 60 feet below ground surface (“bgs”); (vi) has ten feet of plastic well screen extending from 60 feet bgs to 70 bgs; (vii) is located approximately 200 feet from West College Avenue; (viii) can sustain a pumping rate of 75 gallons per minute; and (ix) is permanently equipped with a submersible pump and associated equipment that is connected to the irrigation system installed on the property. The surface completion and well permit number for the irrigation well was confirmed by ERM in February 2016 as documented in the attached photographs.*

EPA Comment 2: To the extent practical, prior to completing the vertical delineation borings, per EPA Geologist request, provide, for a quick turnaround review, to the EPA RPM and Geologist (Mike Cramer) a copy of the soil boring log associated with the lithologic soil boring.

***DII Response:** DII will provide a boring log for the lithological soil boring designated as “LB-OS-1” to the EPA remedial project manager (“RPM”) and geologist (Mike Cramer) within approximately 24 hours after completing the soil boring. However, to minimize downtime of the drilling equipment, DII will continue with drilling activities associated with advancing the three vertical delineation borings (“VDBs”) that are planned while the boring log is prepared from the field notes that document drilling of the lithological soil boring. The boring log will be transmitted to EPA via e-mail.*

EPA Comment 3: In addition to the specified analytes, analyze each groundwater sample collected from the vertical delineation borings for Tentatively Identified Volatile Organic Compounds (VOC TICs). To the extent practical, verify any detected TICs with laboratory standards.

DII Response: *DII does not believe there is a need to analyze the groundwater samples that will be collected from the VDBs for tentatively identified compounds (“TICs”). This position is based on DII’s on-going rigorous assessment of all of the on-site groundwater quality data collected over time, which indicates the following:*

- 1. As previously discussed with EPA, the target compounds of interest for the VDB investigation are chlorinated volatile organic compounds (“CVOCs”).*
- 2. During the groundwater monitoring events conducted between 2014 and 2016, TICs were reported as part of analyses for volatile organic compounds (“VOCs”) and semi-volatile organic compounds (“SVOCs”). Only seven TICs (2-butoxy ethanol; n-hexadecanoic acid; squalene; cyclic octaatomic sulfur; 2,6,10,14,18-pentamethyl-2,6,10,14,18-eicosane; dibenzylidene 4,4'-biphenylenediam; and dioctadecyl ester phosphonic acid), were tentatively identified in the groundwater samples from the six monitoring wells (wells MW-8, MW-9, MW-49, MW-50, MW-51, and MW-68) located along the boundary of the Salisbury facility upgradient of where the VDBs will be advanced.*
- 3. Of the seven TICs listed above, three of the TICs (2-butoxy ethanol, n-hexadecanoic acid, and squalene) were also detected at comparable concentrations in upgradient property boundary monitoring wells TB-MW-2 and TB-MW-3 for the Salisbury facility, and thus the potential presence of these TICs in groundwater is not associated with historical operations at the Salisbury facility.*
- 4. Of the seven TICs listed above, only 2-butoxy ethanol has relatively high mobility. However, this compound was detected at an estimated concentration more than an order of magnitude below its RSL at a hazard quotient of 0.1 at the northwest boundary of the Salisbury facility, and was also detected at comparable concentrations in background wells TB-MW-2 and TB-MW-3. Of the remaining six TICs, two TICs (squalene and n-hexadecanoic acid) are associated with naturally occurring fatty acids, three TICs (2,6,10,14,18-pentamethyl-2,6,10,14,18-eicosane; dibenzylidene 4,4'-biphenylenediam; and dioctadecyl ester phosphonic acid) are relatively higher molecular weight compounds with very low mobility in groundwater, and one TIC (cyclic octaatomic sulfur) is a sulfur compound with no significant toxicity.*
- 5. The sampling results for the three TICs that are relatively higher molecular weight compounds (2,6,10,14,18-pentamethyl-2,6,10,14,18-eicosane; dibenzylidene 4,4'-biphenylenediam; and dioctadecyl ester phosphonic acid) have not been replicated between sampling events or between monitoring wells during the groundwater monitoring events conducted between 2014 and 2016.*

DII is in the process of completing a comprehensive evaluation of the analytical results for TICs and will present that evaluation to EPA upon its completion.

EPA Comment 4: As (a) the irrigation well actually is located at the Facility; (b) EPA is aware of only one sample which has been collected from the irrigation well for analyses and the sample was collected and analyzed over 12 years ago; (c) such analyses did not include VOC/SVOC TICs; (d) the parcel has been used since the sample was collected; (e) any RCRA corrective action decision must reflect the current condition at the Facility; and (f) updated analyses of broad parameters of groundwater at the north parcel is needed to support the RCRA corrective decision, analyze the sample from the irrigation well for VOC/SVOC TCL parameters, VOC/SVOC TICs, and TAL metals. To the extent practical, verify VOC TICs with laboratory standards. Revise the access agreement as necessary to complete the analyses.

DII Response: *In response to EPA's Comment 4(a), DII continues to disagree that the College Square Shopping Center property is part of the Salisbury facility for purposes of the RCRA corrective action program, a position that DII has expressed to EPA on numerous occasions. While EPA and DII have not reached consensus on this point, EPA confirmed during the meeting between DII and EPA on 29 June 2016 that the results from the Phase I and Phase II Environmental Site Assessment Report - Dresser Wayne Division (Revised) prepared by Environmental Management & Engineering, Inc. dated 16 October 1997 that was conducted to support the sale of the College Square Shopping Center property could serve as the basis for not requiring further investigation work at the College Square Shopping Center property. This determination appeared to obviate the need to reach resolution regarding the status of the College Square Shopping Center property for purposes of the RCRA corrective action process at the Salisbury facility.*

In response to EPA's Comments 4(b), 4(c), and 4(d), DII agrees that these statements are factually accurate. However, with regard to EPA's Comment 4(d), while the College Square Shopping Center property has been in use for commercial purposes since 2004 when the irrigation well was previously sampled, that use has not changed. It is unclear what impact EPA believes this ongoing commercial use of the College Square Shopping Center property by third parties would have on the GWEI process for the Salisbury facility.

With regard to EPA's Comments 4(e) and 4(f), monitoring wells located at the downgradient northern boundary of the Salisbury facility have been sampled multiple times and analyzed for a broad range of constituents including VOCs, SVOCs, Target Analyte List ("TAL") metals and VOC/SVOC TICs. This extensive data set of groundwater monitoring results indicates that the only parameters that need to be evaluated at the irrigation well for purposes of updating the GWEI for the Salisbury facility are petroleum volatile organic compounds ("PVOCs"). This approach was specifically discussed with EPA following the meeting on 29 June 2016 when EPA requested that sampling of the irrigation well be undertaken and is fully consistent with the information and groundwater modeling results that were presented during the meeting.

Additionally, with regard to EPA Comment 4(f), and similar to DII's response to EPA Comment 3, above, DII does not believe there is a need to analyze the groundwater samples to be collected from the irrigation well for TICs. The primary constituents of concern that are upgradient of the irrigation well are PVOCs that have been detected as dissolved-phase constituents in the LNAPL area located in the northeast portion of the Salisbury facility. The analysis of TICs that have been detected in groundwater samples from the northeast portion of the Salisbury facility indicate that the detected TICs are co-located and co-vary with the target PVOCs, and have similar chemistry and fate and transport behavior as the target PVOCs. Therefore, DII does not believe it is necessary to include TICs for the purpose of updating the GWEL. As noted above, DII is in the process of completing a comprehensive evaluation of the analytical results for TICs that have been obtained at the Salisbury facility and will present that evaluation to EPA upon its completion.

EPA Comment 5: Where applicable, verify groundwater samples will be collected via low flow (minimal drawdown) groundwater sampling procedures described at <https://www.epa.gov/remedytech/low-flow-minimal-drawdown-ground-water-sampling-procedures>.

***DII Response:** Low flow groundwater sampling procedures are not applicable when collecting groundwater samples using VDBs. Rather, the methods to be used for collecting groundwater samples from VDBs involve opening a screen interval as the soil boring is advanced that is in direct contact with the groundwater-saturated materials that comprise the sampling interval to ensure that a representative groundwater sample is collected. DII has demonstrated in the past that the groundwater samples and related sampling methodology from VDBs provide results that are representative of groundwater conditions.*

DII's response with regard to the applicability of low flow groundwater sampling procedures during the sampling of the irrigation well is provided in its response to EPA Comment No. 6, below.

EPA Comment 6: With respect to the collection of a groundwater sample from the irrigation well, water quality parameter stabilization must be demonstrated prior to collecting a groundwater sample for analyses. Stabilization usually is demonstrated when three consecutive measurements are within a 10% measurement variation for each of the five water quality parameters. The 2004 Workplan to sample the irrigation well describes stabilization is achieved when variation over three readings is within 10% variation for dissolved oxygen and turbidity, 3% variation for specific conductance, 10 millivolt variation for Eh, and 0.1 unit variation for pH. It appears the later standard was developed and applied solely to the irrigation well sampling event to assure minimal draw down. Verify the later standard will be applied to the sample which will be collected from the irrigation well.

***DII Response:** DII stated in the Off-Site Sampling Plan that during purging of the irrigation well, the water being purged will be monitored for the water quality parameters listed by EPA in its comment. DII will, to the extent practicable, attempt to obtain stabilization of water quality parameters based on the specifications provided by*

EPA in its comment. However, if water quality parameters do not fully stabilize by the time approximately 100 gallons of water has been purged from the irrigation well, DII will cease purging the well and collect a groundwater sample at that time. A volume of one-hundred gallons of water represents approximately three wetted casing volumes of groundwater and is sufficient to help ensure that the groundwater sample that is collected is representative of groundwater conditions in the saturated zone rather than groundwater that has stagnated in the irrigation well.

EPA Comment 7: Verify a sample will be collected from the “top of the water table” from each vertical delineation boring. Such data is needed to assess the potential for an unacceptable vapor intrusion risk. Concern is cited that the top measurement is specified at 12’ above mean sea level, rather than “top of the water table”.

DII Response: *DII intends to collect a groundwater sample from as near as practicable to the “top of the water table” from each VDB. Survey work completed last week indicates that the ground surface elevations in the area where the VDBs are expected to be installed range between 29 and 30 feet above mean sea level (“amsl”). The target elevation of the first groundwater sample to be collected from each VDB of 12 feet amsl (corresponding to the anticipated “top of the water table”) is approximately 18 feet bgs. As described in the response to EPA Comment No. 8, below, the depth to groundwater will be evaluated immediately before the VDBs are advanced.*

EPA Comment 8: Verify groundwater elevation will be measured in each vertical delineation boring at each sample level.

DII Response: *The collection of a groundwater elevation measurement within each VDB at each groundwater sample collection point is not technically feasible. DII plans to confirm the approximate depth-to-groundwater both within the lithological soil boring and within the nearest shallow monitoring wells located at the Salisbury facility for purposes of determining the depth below ground surface for collection of a groundwater sample as near as practicable to the “top of the water table” from each VDB.*

EPA Comment 9: Verify the work will be completed in accordance with a Quality Assurance Project Plan (QAPP) that has been reviewed and approved by the EPA Region 3 laboratory quality review experts. Describe whether a Quality Assurance Project Plan for this project was ever submitted to EPA for approval and the current status of any such approval. If an approved QAPP for this project is not in place, with the verification from ERM that the existing approach has been reviewed and approved by the EPA Region 3 lab for other similar work, please submit to EPA for review and approval, a QAPP for any future sampling events beyond this event. If there are any questions regarding the potential that the approach which will be applied to the work in the submittal is not approvable, please submit such questions to the EPA RPM for review and approval prior to implementing any work. Any work that is conducted without EPA approval is conducted at the risk that additional or different work may be required in the future.

DII Response: *A Quality Assurance Project Plan (“QAPP”) was prepared for the Salisbury facility by Tetra Tech EM, Inc. and provided to EPA in 2002. DII agrees it would likely be mutually beneficial to prepare a QAPP that meets current quality*

assurance/quality control specifications and to document site-specific conditions that could affect data acceptability. DII will proceed with preparing an updated QAPP for submittal to EPA for future sampling events beyond those identified in the Off-Site Sampling Plan and the synoptic on-site groundwater monitoring event that will take place immediately after implementing the Off-Site Sampling Plan.

While an updated QAPP will not be completed prior to the upcoming groundwater sampling activities using VDBs, DII has implemented a consistent approach to collecting groundwater samples during numerous groundwater investigation events that DII has implemented using VDBs at the Salisbury facility since 2010. DII has kept EPA informed about these preceding groundwater monitoring events and its technical approach for using VDBs to collect groundwater samples, which have provided reliable and reproducible results. In addition, the irrigation well will be sampled in a manner that is similar to the procedures that were used to sample the irrigation well in 2004.

EPA Comment 10: Verify 100% of the analytical data which will be collected will be validated in accordance with the National Functional Guidelines. Refer to <https://www.epa.gov/clp/contract-laboratory-program-national-functional-guidelines-data-review>.

DII Response: *DII agrees that the groundwater sample results that are generated during the groundwater sampling activities will be validated. The validation of analytical data will be performed in accordance with the data validation protocols that EPA and DII previously agreed upon, as documented in DII's responses to EPA comments to the Interim Corrective Measure Work Plan for Remediation of PCB-impacted Soil (ERM, July 2014), which AEM transmitted to EPA on behalf of DII via e-mail on 12 September 2014. Consistent with these protocols, the sample results will be validated using Level 3 data validation and Level 4 data validation described as follows:*

Level 3: Level 3 data validation will consider the following: holding times; initial calibration; continuing calibration; blanks; surrogate recovery; matrix spike and matrix spike duplicate recovery; laboratory control sample recovery; internal standard performance; field duplicate sample analysis for Relative Percent Difference ("RPD"); and overall assessment of data in the sample delivery groups.

Level 4: Level 4 data validation will review the summary analyses and also the raw data to compile the final sample data. Level 4 data validation will consider all of the parameters evaluated in Level 3 data validation plus the following: compound identification, quantitation and detection limits (i.e., using the raw data to recalculate the results); and system performance.

The number of analytical data that are validated will also be consistent with the data validation protocols that DII presented to EPA. Due to the low number of samples that are to be collected from the irrigation well, DII will validate the analytical results for these samples using both Level 3 data validation and Level 4 data validation. For the groundwater samples to be collected from the VDBs, a minimum of 75% of the analytical results (excluding results for terminal electron receptors that are being used to evaluate

natural attenuation potential) from these groundwater samples will undergo Level 3 data validation. Of the analytical results that undergo Level 3 data validation, a minimum of 10% of these results will also undergo Level 4 data validation.

EPA Comment 11: Describe the extent, if any, of influence on the proposed groundwater sample locations associated with hydraulic loading by the pond which is located proximate to the irrigation well. The pond is a 209' by 41' retention pond for the parking lot which is designed to collect storm water surface runoff and to slowly percolate the collected water into the ground. Describe the design capacity of the pond.

DII Response: *The locations proposed for purposes of off-site groundwater sampling – including the three VDBs located on the property owned by Hanna Family Investments, LP, and the irrigation well located on the College Square Shopping Center property – were selected, in part, based on outputs from the sophisticated groundwater model that was developed to support the process for updating the GWEI for the Salisbury facility. Outputs from that model were presented to EPA during the meeting on 29 June 2016 between EPA and DII. The groundwater model specifically incorporates the storm water retention / recharge basin located on the west side of the College Square Shopping Center property. The retention / recharge basin is known to receive run-off from the shopping center parking lot and may receive storm water from other sources. Because recharge amounts are not recorded for the basin, a range of recharge amounts was simulated using the groundwater model. The model output indicates that the infiltration of water that is collected in the basin tends to slow the movement of groundwater and any constituents of concern in the vicinity of the basin by reducing horizontal hydraulic gradients. Infiltration of water that is collected in the basin also produces a slight downward gradient within the unconfined water-bearing zone beneath the basin. With regard to PVOCs, the irrigation well is located in the direction of potential migration of PVOCs originating from the Salisbury facility under all conditions simulated by the model. With regard to CVOCs, infiltration at the basin tends to result in a slightly more westerly migration direction of CVOCs, and does not significantly increase the depth at which CVOCs may be present. Under all conditions simulated by the model, the proposed VDBs are located in the direction of potential migration of CVOCs originating at the Salisbury facility.*

EPA Comment 12: Survey geographic coordinates (latitude and longitude) and elevation for the borings and irrigation well. Where applicable, apply World Geodetic System (WGS) 1984 datum, in decimal degrees, to at least 7 decimal places where West longitude is a negative number.

DII Response: *Work to identify underground utilities in the area where the lithological soil boring and VDBs are to be advanced was completed last week. Based on the locations of identified underground utilities, the locations where the lithological soil boring and VDBs are to be advanced were adjusted slightly from those that were initially depicted in the Off-Site Sampling Plan. A figure showing the locations of the adjusted locations for the lithological soil boring and VDBs is attached hereto. The adjusted locations for the lithological soil boring and VDBs, and the location of the irrigation well were also surveyed last week for geographic coordinates (latitude and longitude) and*

ground surface elevation. This information, using the World Geodetic System, is included on the figure that is attached hereto.

EPA Comment 13: Describe how generated wastes, including purged water, will be managed.

DII Response: *DII will place all solid and liquid wastes generated during the groundwater sampling activities described in the Off-Site Sampling Plan in properly labeled 55-gallon drums. The generated investigation-derived waste will then be appropriately characterized and transported to a permitted off-site facility for disposal.*

DRAFT

Photographs of Off-Site Irrigation Well
3 February 2016



Photo 1: Off-site irrigation well stick-up and associated control panel.



Photo 2: Well tag on off-site irrigation well stickup that identifies the MDE well permit number.

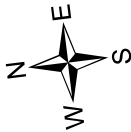
Location	Surveyed Coordinates ¹		Surveyed Ground Surface Elevation (Feet AMSL)
	Latitude (DMS)	Longitude (DMS)	
VDB-OS-1 ²	N38°20'56.20"	W75°36'04.15"	29.10
VDB-OS-2 ²	N38°20'55.39"	W75°36'04.45"	29.76
VDB-OS-3 ²	N38°20'55.16"	W75°36'05.16"	29.75
LB-OS-1 ²	N38°20'55.44"	W75°36'04.75"	29.47
Irrigation Well	N38°20'57.43"	W75°36'01.54"	32.21



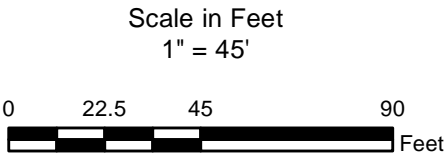
Legend

- ▲ Proposed Off-Site Vertical Delineation Boring Location
- Proposed Off-Site Lithological Boring
- ⊕ Off-Site Irrigation Well
- ⊕ On-Site Monitoring Well
- ➡ Prevailing Groundwater Flow Direction
- Site Boundary

 **Environmental Resources Management, Inc.**
Philadelphia Office
484-913-0300
October 19, 2016



DRAFT



- Notes:
1. Survey data are based on World Geodetic System 1984 datum.
 2. The exact location where the boring is advanced may vary slightly, based on field conditions.
 3. DMS - Degrees, Minutes, Seconds
 4. AMSL - Above Mean Sea Level
 5. Aerial Photo Source: SSPA Ortho-Imagery, 2013

Figure 1
Proposed Off-Site Groundwater Sampling and
Lithological Boring Locations
Dresser Inc. Facility
Salisbury, MD